



ENERGY & UTILITIES  
INDEPENDENT  
ASSESSMENT SERVICE

# **EPA Specification** Level 4 End-point Assessment for Electrical Power Protection and Plant Commissioning Engineer



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# L3 EPA Electrical Power Protection and Plant Commissioning Engineer



## EPA Specification Section 1 – Introduction

### Contacts

**This specification has been designed to provide all the advice and guidance you need to prepare yourself and your apprentices for end-point assessment. However, if you have any further questions please contact the EUIAS Help Desk using one of the following:**

**Help Desk email: [enquiries@euias.co.uk](mailto:enquiries@euias.co.uk)**

**Help Desk telephone: 0121 713 8310**

## About the Energy and Utilities Independent Assessment Service (EUIAS)

The EUIAS is an independent End-point Assessment organisation (EPAO) approved by the Education and Skills Funding Agency (ESFA) (number EPA0009) to offer and carry out the end-point assessments (EPA) for the Level 3 Electrical Power Protection and Plant Commissioning Engineer Apprenticeship Standard (ST0157). This specification relates to assessment plan ST0157/AP02.

The EUIAS was established in 2014 and is part of Energy & Utility Skills Limited. The EUIAS delivers rigorous and robust apprenticeship end-point assessment services for the energy and utilities sector, and for technical and safety-critical sectors. In May 2016, The EUIAS became the first end-point assessment provider to have achievers on the English Trailblazer apprenticeship standards.

## About End-point Assessment

End-point assessment is the term given to the assessments taken by apprentices at the end of their apprenticeship, and which must be passed in order for the apprentice to be awarded a certificate of achievement. Apprentices must be trained by training providers approved by the ESFA and their end-point assessments must be carried out by an EPAO approved by the ESFA. The assessment is designed, delivered, assessed and quality assured by the EPAO, with further external quality assurance provided by an external quality assurance (EQA) provider.

The EPA typically consists of three assessment components each of which must be passed in order to achieve an overall pass. For the Electrical Power Protection and Plant Commissioning Engineer standard, the assessments are a Knowledge Assessment, a Technical Interview and a Practical Observation.

End-point assessment is based on two documents that have been written by an employer group – the Standard and the Assessment Plan, both of which can be found on the website of the Institute for Apprenticeships and Technical Education, [www.instituteforapprenticeships.org](http://www.instituteforapprenticeships.org).

The EPAO designs the assessments to cover the standard, while complying with the assessment plan. It is important for training providers supporting apprenticeships:

- to ensure their training programmes cover all the elements required by the standard
- to have access to suitable premises, plant, machinery and equipment for the practical observation

# How to Use this EPA Specification for Electrical Power Protection and Plant Commissioning Engineer

Welcome to the EUIAS EPA Specification for the Electrical Power Protection and Plant Commissioning Engineer (EPPPC) Apprenticeship Standard.

The EUIAS internally quality assures all end-point assessments in accordance with its IQA process and IfATE requirements. This standard is externally quality assured by Ofqual on behalf of the IfATE.

This Specification is available from the EUIAS website ([www.euias.co.uk](http://www.euias.co.uk)) as a complete document, and also in its individual sections to allow customers to download what they require.

**Important: the web site will always contain the latest version of this document so please check back to ensure you are using the latest version.**

This Specification outlines what you need to know about the end-point assessments for this standard and provides details of the on-programme delivery requirements. It provides advice and guidance for trainers on how to prepare apprentices for the end-point assessment.

The Specification provides end-to-end details of the how the EUIAS works with customers, from initial engagement to the completion of end-point assessment.

## **Audience:**

Section 2 will be of interest mainly to the external quality assurance body to ensure the assessment methods cover the standard.

Section 3 will be of interest mainly to administrators and those responsible for planning and scheduling end-point assessments.

Section 4 will be of interest to those ensuring that apprentices have covered all the required elements of the standard during their apprenticeship, and to apprentices themselves.

Sections 5 and 6 will be of interest to those who support apprentices in preparing for the end-point assessments, and to apprentices themselves.

## At a glance

**Apprenticeship standard:** Electrical Power Protection and Plant Commissioning Engineer

Assessment Plan: ST0157/AP02

QAN 603/7290/4

Level: 4

**On-programme duration:** Typically, 36 months, with end-point assessment taking place in the last six months

**Grading:** Fail/Pass/Distinction

End-point Assessment methods:

- Knowledge assessment
- Technical interview, based on a work log compiled during the apprenticeship
- An observation of practical work activities

### Quality Assurance:

Quality assurance of the end-point assessment is designed in accordance with the Assessment Plan. The main features of EUIAS quality assurance are:

- Assessments carried out by
  - an Independent Assessor for the interview
  - an employer Technical Expert for practical work activities
- Ongoing internal quality assurance
- Moderation and final grading carried out by an employer Final Decision Panel acting on behalf of EUIAS.

External quality assurance is provided by Ofqual.

### In this guide, you will find:

- Detailed amplification and guidance of the standard and guidance on how to prepare the apprentice for gateway
- Detailed information on which part of the standard is assessed by which assessment method
- A section focused on the end-point assessment method where the assessment criteria are presented in a format suitable for carrying out practice assessments
- Suggestions on how to prepare the apprentice for each part of the end-point assessment
- A practice test that you can use with apprentices.

## **Is this the right standard for you?**

The Electrical Power Protection and Plant Commissioning Engineer standard has been designed by the trailblazer group of employers for EPPPC engineers who will work across the electrical power sector in power generation, power transmission and power distribution.

Commissioning requires a logical approach which builds from individual component tests through to full system commissioning which means it includes making the equipment live and monitoring equipment integrity when it is first 'turned on.'

A large part of the assessment activity is the observation of practical work activities where the apprentice competently demonstrates their skills required to perform their job role. It is important that the setting provides the opportunity to cover all the requirements of the standard. It is essential that the employer and provider check that they have the right site with the right opportunities for the apprentice to cover all the requirements of the assessment. The apprentice will not be assessed on the job that they do but on the requirements of the standard.

## **Purpose**

This EPPPC Engineer End-point Assessment provides evidence that can be used to show and secure the confidence of others that the apprentice has acquired, the skills, knowledge and understanding which confirms their ability to perform functions of an occupational role to the standards required. It provides evidence of apprenticeship competence, for example, to clients/customers or to their employer to allow them to progress within their career

## **Standard overview**

The EPPPC Engineer works within strictly defined processes and procedures to exacting standards. Any Electrical Power Plant & Equipment and Protection System requires testing and commissioning to confirm that the installation and operation of new and refurbished protection plant & equipment comply with manufacturers' specifications, company procedures and the operating parameters.

EPPPC engineers will work with other engineers to install, conduct tests and commission protection systems and prove the integrity of other power system plant & equipment. They will be responsible for testing and commissioning on electrical power projects and ensure that the work is conducted safely and, reliably, meeting customer, quality, time and budget requirements.

The apprentice would be expected in their job role to:

- apply sound engineering and analytical processes to both normal and abnormal conditions on high voltage power generation, transmission & distribution plant & equipment
- apply safe working practices in line with company processes and legislative requirements
- use of a wide range of test equipment to confirm the suitability of the high voltage plant for conformity and operational service
- accurately read and interpret a wide range of engineering diagrams and drawings
- prepare and check technical reports
- effectively communicate with others to confirm that the tests meet the required

standards/specifications.

Additionally, specific plant skills include

- undertake testing, commissioning and maintenance activities on electrical power systems and equipment. This could include transformers, switchgear, conductors, battery systems and ancillary equipment.

Specific protection skills include

- undertake protection, testing, commissioning and maintenance activities involving functionality testing and the injection of currents and voltages into high voltage equipment and their associated protection and control systems to simulate the range of fault conditions and scenarios that can occur on the electrical system
- use appropriate test equipment to verify protection and control settings and ensure correct installation and operation of modern microprocessor and numerical based protection as well as older electromechanical relays
- ensure that protection systems interface correctly with the associated high voltage equipment and, where necessary, coordinates effectively with the wider high voltage system.

## **On-programme requirements**

The employer or training provider should ensure that they have developed and can deliver a programme of training and learning that will enable the apprentice to develop the knowledge, skills and behaviours that will be assessed as part of this standard. The programme must cover all the knowledge, skills and behaviours of the standard.

The planning, organisation and delivery of the on-programme element of the apprenticeship is the responsibility of the employer or training provider and it is their responsibility to ensure they are compliant with all applicable regulations.

For all roles it is recommended that throughout the period of learning and development, and at least monthly the apprentice should meet with their training provider or employer to record their progress against the standard. At these reviews, the employer should:

- set learning and development goals
- track the apprentice's progress
- coordinate 20% of the apprentice's time being spent in off-the-job training.

The employer must satisfy themselves that the apprentice:

- has developed and demonstrated the knowledge, skills and behaviours as specified in the standard
- can successfully demonstrate their ability to work safely and competently as an EPPPC Engineer.

Once the apprentice is deemed competent, the relevant section(s) of the standard should be signed off by the on-programme assessor and employer.



## **Readiness for end-point assessment**

The apprentice must satisfy all requirements of the final gateway before entering end-point assessment:

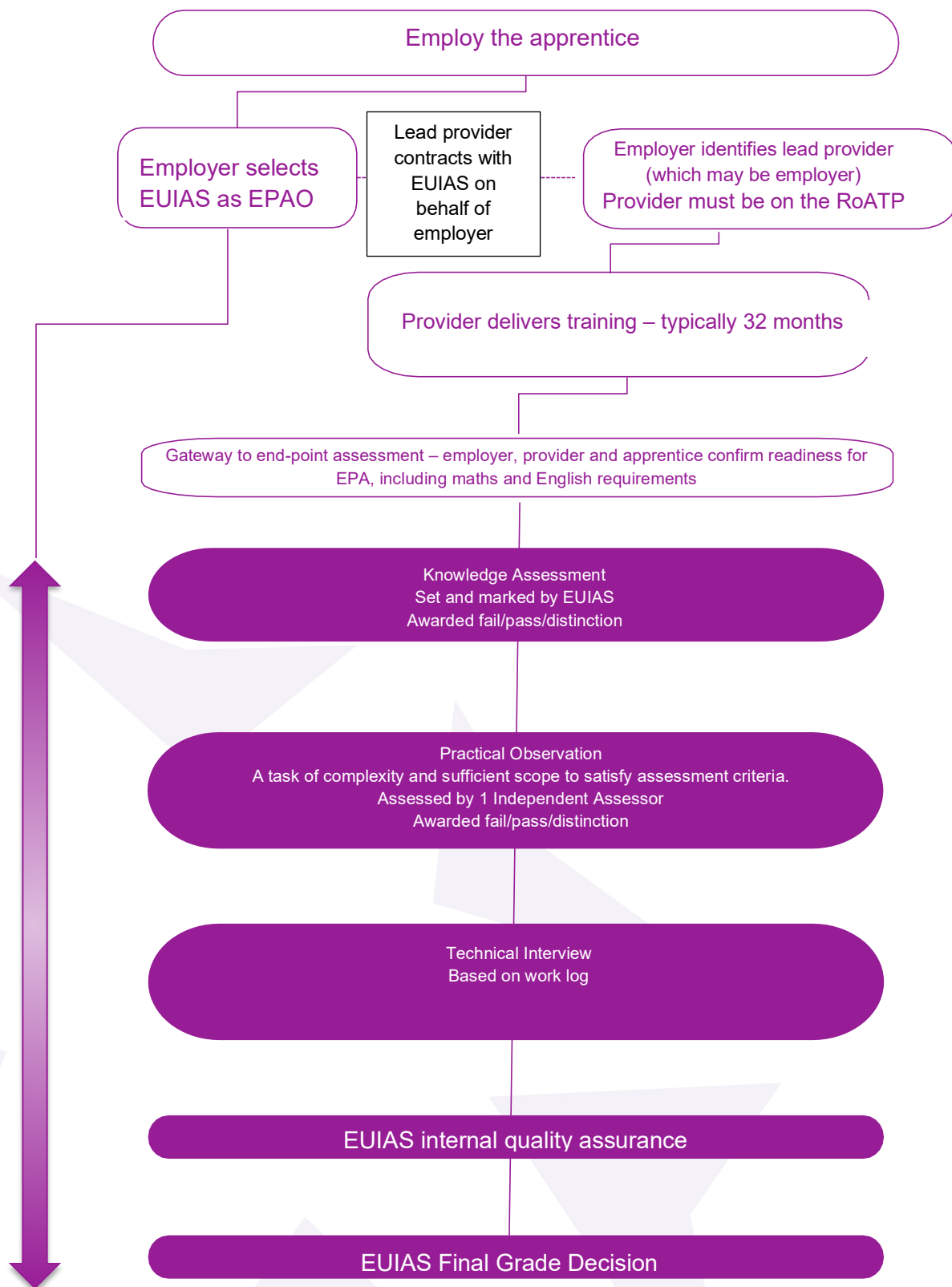
- Achieved English and maths at level 2 (or equivalent) or higher
- Satisfactory completion of a formal training plan agreed with the apprentice by the employer
- Sufficient evidence in the form of a work log to allow the apprentice to consistently demonstrate skills, knowledge and behaviours as described in the standard
- The employer, training provider and apprentice must be confident that the apprentice has developed all the knowledge, skills and behaviours defined in the apprenticeship standard. To ensure this, the apprentice must attend a formal meeting with their employer to complete the Gateway Eligibility Report
- The apprentice and the employer must engage with the Service Delivery team at EUIAS to agree a schedule for each assessment activity to ensure all components can be completed within a 6-month assessment window. Further information about the gateway process in Section 3
- The employer, training provider and apprentice must be confident in ensuring that all EPA assessment completed documentation is uploaded to the EUIAS system as instructed by the Service Delivery Team

## **Order of end-point assessments**

The end-point assessment for EPPPC Engineers uses the following assessment tools:

- Knowledge Assessment
- Technical interview, based on a work log compiled during the apprenticeship
- An observation of practical work activities.

The end-point assessment takes place in the last 6 months. There is no prescribed order of the assessments. EUIAS recommend that the Knowledge Assessment is completed first and the technical interview completed last.



**Overview of the EPA process – EPA-related activities in purple**